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| Pre-Lab Objectives : The Cell - Transport Mechanisms and Cell Permeability   1. **Define the following terms: Use drawings to explain.**  |  |  |  | | --- | --- | --- | |  | Define | Draw & Label | | *Selective permeability* |  |  | | *diffusion* |  |  | | *osmosis* |  |  | | *filtration* |  |  | | *isotonic* |  |  | | *hypotonic* |  |  | | *hypertonic* |  |  | | *Active transport* |  |  | | *Passive transport* |  |  |   2. Distinguish between active and passive cell transport processes. Identify each of the following process  a as either **A** (active) or **P** (passive)   |  |  |  | | --- | --- | --- | | \_\_\_\_\_ diffusion | \_\_\_\_\_ solute pump | \_\_\_\_\_ filtration | | \_\_\_\_\_ osmosis | \_\_\_\_\_ phagocytosis | \_\_\_\_\_ pinocytosis | | \_\_\_\_\_ exocytosis |  |  | |
| 3. Explain the effect of temperature, medium (liquid versus solid), and molecular weight on the rate of  diffusion. (Answer the following multiple choice questions).  \_\_\_\_\_ Molecules in a warm environment diffuse (a) faster, b) slower, c) same rate) as molecules in a   cool environment.  \_\_\_\_\_Molecules that are light (have a low molecular weight) generally diffuse   (a) faster, b) slower, c) same rate) than molecules that are heavy (high molecular weight).  \_\_\_\_\_Diffusion through a non-dense medium (water) occurs   (a) faster, b) slower, c) same rate) than diffusion through a denser substance (agar gel). |
| 4. Describe the effect of tonicity on cell volume.  (answer the following multiple choice questions)   \_\_\_\_\_ Red blood cells suspended in 10% saline solution will   (a) crenate or shrivel; b) remain in equilibrium; or c) swell and hemolyze or burst  \_\_\_\_\_ Red blood cells suspended in distilled water will   (a) crenate or shrivel; b) remain in equilibrium; or c) swell and hemolyze or burst  \_\_\_\_\_ Red blood cells suspended in physiologic saline will   a) crenate or shrivel; b) remain in equilibrium; or c) swell and hemolyze or burst. |